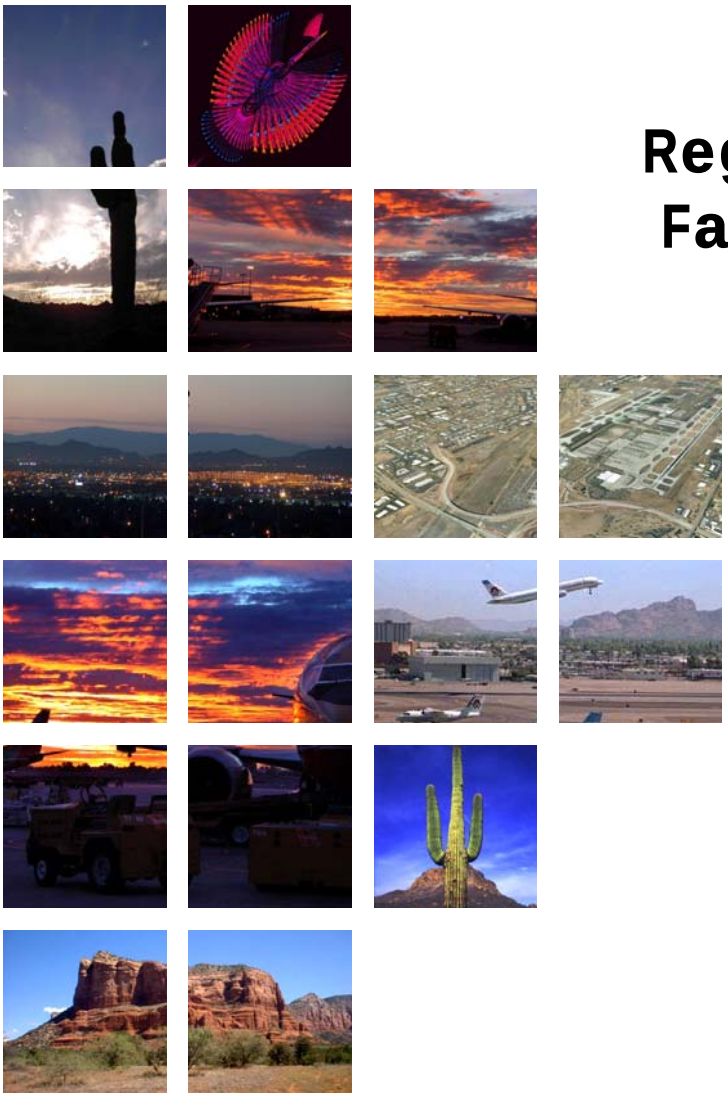

Section 2

Regulatory Environment – Facilities and Operations

Section 2 Regulatory Environment – Facilities and Operations

2.1 Introduction

In addition to extensive environmental regulations associated with an airport facility, numerous regulatory requirements exist for ARFF facilities and operations. The previous study included an extensive examination of these regulatory requirements. For this study, all pertinent federal, state, and local regulations have been updated and new regulations and guidelines documented.

Table 2.02, provided at the end of this section, summarizes the regulations, standards, and guidelines that apply to ARFF facilities and operations.

2.2 Federal Aviation Administration

Federal regulations related to ARFF facilities include regulations, standards, and guidelines, as summarized herein.

2.2.1 Federal Aviation Regulation (FAR) Part 139

Federal Aviation Regulation (FAR) Part 139-*Certification and Operations: Land Airports Serving Certain Air Carriers*_Sections 139.315, 139.317, 139.319 and 139.325 govern the specifics of emergency services response on Part 139 certificated commercial airports. The regulations specify the firefighting equipment, extinguishing agent required, and the operational and emergency requirements including ARFF training requirements.

Part 139 certificated airports are classified by indices A through E in accordance with Section 139.315. An airport's ARFF index is determined by the average length of the commercial transport aircraft that utilizes a particular airfield. These indices have historically applied to commercial aircraft carrying 30 or more passengers, and have recently been revised to include 10 or more passengers. The index category of an airport ultimately determines the type and amount of extinguishing agent necessary to provide fire protection and the number of trucks required to respond to emergency situations as specified in Section 139.317.

The amount of agent and quantity of trucks required by the regulation can directly affect the regional training facilities because it ultimately sets the stage for staffing requirements. Currently the FAA does not set staffing requirements for airports. Part 139 simply states that the airport must provide sufficient staffing and training for the staff that they provide to perform the emergency service response. But they also encourage airport operators to adhere to the national NFPA and international ICAO consensus standards (discussed later in this section) as well.

Table 2.01 represents current[1] FAA vehicle and agent requirements based on ARFF index category for emergency services.

[1] as of January 2004.

Table 2.01

Part 139 Airport Index (2004)

FAA Airport Index	A	B	C	D	E
Length of Aircraft (ft.)	<90	>90<126	>126<159	>159<200	>200
ARFF Vehicles Required	1	1 or 2	2 or 3	3	3
Total Fire Fighting Agent Required	500 lb. DC*/Halon 1,211 or 450 lb. DC and 100 gal. of H^2O	Same as A and 1,500 gal. of H^2O	Same as A and 3,000 gal. of H^2O	Same as A and 4,000 gal. of H^2O	Same as A and 6,000 gal. of H^2O

**Dry Chemical*
Source: FAR Part 139

These requirements refer to aircraft with greater than 30 seats. The FAA implemented certification requirements for airports serving scheduled air carrier operations in aircraft with 10 to 30 seats on March 30, 2004. Typically these aircraft are referred to in the industry as commuter aircraft operations. Due to the infrequency of the commuter-based operation, proposals have been advanced with new requirements ranging from no emergency service to full emergency service. There are many within the aviation community that feel a requirement for emergency services could be handled by a local fire department on stand-by at the airport or a volunteer organization. There are also proponents for full ARFF training to some level below what is currently required by fully certificated airports. This proposed rule change was first announced in the year 2000 and has been slowly making its way through the regulatory process.

Section 139.319 requires certificated airports to provide rescue and firefighting capability as specified for the index category. This capability includes incident communication, equipment capacity, and response requirements, including personnel training.

"(j) Personnel. Each certificate holder shall ensure the following:

> *(1) All rescue and firefighting personnel are equipped in a manner acceptable to the Administrator with protective clothing and equipment needed to perform their duties.*
>
> *(2) All rescue and firefighting personnel are properly trained to perform their duties in a manner acceptable to the Administrator. The training curriculum shall include initial and recurrent instruction in at least the following areas:*

(i) Airport familiarization.

(ii) Aircraft familiarization.

(iii) Rescue and firefighting personnel safety.

(iv) Emergency communications systems on the airport, including fire alarms.

(v) Use of the fire hoses, nozzles, turrets, and other appliances required for compliance with this part.

(vi) Application of the types of extinguishing agents required for compliance with this part.

(vii) Emergency aircraft evacuation assistance.

(viii) Firefighting operations.

(ix) Adapting and using structural rescue and firefighting equipment for aircraft rescue and firefighting.

(x) Aircraft cargo hazards.

(xi) Familiarization with firefighters' duties under the airport emergency plan.

(3) All rescue and firefighting personnel participate in at least one live-fire drill every 12 months."[2]

This is a critical sub-section of Part 139 in that it mandates that initial as well as recurrent training must take place. It is also provides the basis by which the FAA has provided funding under the Capital Improvement Program to construct regional training facilities around the country.

As part of an airport's annual response test and certification, the airport inspector may request documentation which shows that each firefighter has participated in at least one live-fire hot drill and has received training in each of the eleven subsections of this regulation. Any firefighter who has not met these requirements may not participate in actual response or be counted as part of the required response team until they have met all of these requirements. For many years the term "live-fire drill" was interpreted to mean a fire commensurate to the index-sized aircraft operating on the airport and a resultant post crash fuel spill. Training was to be conducted with like equipment in size and scope of the emergency services provided by the airport.

The FAA goes well beyond these regulatory minimum requirements in that it encourages all airport emergency services to train to the National Fire Protection Association (NFTA) national consensus standards as well as the International Fire Service Training Association (IFSTA) Certification Standards of Oklahoma State University (OK). For many years the FAA has provided industry ARFF experts to assist these valuable organizations in their standards-writing processes.

[2] Federal Aviation Regulation 139.319.

Part 139 certificated airports must also ensure that:

> *"(5) Sufficient rescue and firefighting personnel are available during all air carrier operations to operate the vehicles, meet the response times, and meet the minimum agent discharge rates required by this part…"*[3]

Again, note that the FAA does not specifically set staffing requirements; Part 139 simply states that the airport must provide sufficient staffing and training to perform the emergency service response. Therefore, it is difficult to determine the number of potential firefighters available to use a regional training facility without the local airport's cooperation. The FAA neither sets staffing levels, nor stipulates where the training must take place.

In FY 2002, the National Fire Protection Association's Aviation Technical Committee modified its *NFPA 403 Standard for Aircraft Rescue and Fire-Fighting Services at Airports* to include a minimum staffing level requirement of three fire fighters for each major rescue vehicle required to meet the airport's emergency services' indexed response.

The International Civil Aviation Organization (ICAO), like the FAA, chooses not to set minimum staffing levels on the responding emergency vehicles, yet they too encourage international airports have staffing requirements aligned with NFPA national consensus standards. Each organization leaves the staffing levels to be set by the organization responsible for providing the emergency response.

Section 139.325 requires the development and maintenance of an Airport Emergency Plan. The Airport Emergency Plan is designed to identify possible resources that can be allocated or drawn on by the airport should a major accident or incident occur. The FAA, along with requiring an airport to have an Airport Emergency Plan, requires that this full plan be exercised or demonstrated at least once every three years. This is called a Tri-Annual Emergency Exercise. This ensures that should there be challenges to the plan, they will be discovered and resolved prior to a real emergency taking place. The regional training facilities can play a key role in the development and testing of these plans at airports in its unique geographic area.

2.2.2 Potential changes to current Part 139 Regulations

The following is a summary of the latest proposed changes to FAR Part 139.[4]

Federal Register / Volume 65, No.120 / Wednesday, June 21, 2000 / Proposed Rule change to 14 CFR Part 121 and 139 (*effective March 30, 2004*)

This document proposes to revise the current airport certification regulation and to establish certification requirements for airports serving scheduled air carrier operations in aircraft with 10-30 seats. If this rulemaking change is adopted it would result in approximately 150 airports that

[3] Ibid.
[4] this section last updated 01/04

currently have no emergency services or currently operate with limited emergency services to upgrade to some form of better emergency services. Some of these airports currently operating under Limited Airport Operating Certificate (LAOC), known as a "limited" certificate, use volunteer non-certified fire fighters to provide fire protection. Many of these facilities have no fire protection at all. Some operate with reduced manpower and equipment operations. Should this rule be changed, many of these LAOC airports would have to provide a higher level of emergency service response. There are several of these limited-operation airports currently situated within, and in close proximity to, Arizona. This could potentially increase slightly the number of potential ARFF students requiring training.

Federal Register: September 18, 2003 (Volume 68, Number 181) Page 54772-54774

With the introduction of new technologies, ARFF personnel have the option to train on both mobile as well as fixed training facilities. Current interpretation by the FAA Airports Office allows both fixed facilities and mobile trainers as a means to provide live-fire training provided a mobile trainer can produce a fire commensurate to the index-sized aircraft operating on the airport and a resultant post crash fuel spill. Currently FAA has found that the live-fire drill requirement in Part 139 can be satisfied by training on mobile facilities as often as every other year for Index C, D, and E airports. Otherwise, the training for those size airports is conducted on the larger fixed facilities. The FAA is seeking comments on the adequacy of mobile ARFF trainers for meeting the annual live-fire drill requirements at Index C, D and E airports, rather than just every other year.

As more mobile units come on line providing more economical training and greater mobility, the large fixed facilities may further decline in use and popularity. The Ocala Regional Training Facility (FETF) has been closed for 18 months yet there are 22 commercial airports located in Florida alone. They had over 500 hundred students attend training there in the year 2000, and yet the facility could not financially support itself. Since the Arizona Regional ARFF Training Facility has not yet been established, it may have a more difficult time in establishing a sound costumer base to maintain financial viability if mobile trainers are allowed by the new proposed training requirements.

2.2.3 FAA Advisory Circulars

The FAA Advisory Circulars (ACs), in the 150 series, contain standards and procedures for Aircraft Rescue and Fire Fighting equipment and agents that are acceptable to the Administrator of the FAA. A description of the relevant FAA Advisory Circulars is provided in Table 2.02. When federal funding is sought to build a fire station, purchase a truck, construct a training facility, or purchase basic firefighting equipment, the FAA Advisory Circulars are used to provide the standards and guidance on their purchase. All federally funded projects must be approved by the FAA Washington Airports office and must be competitively bid. Most of the equipment, trucks and facilities funded by the FAA are eligible under the Airport Improvement Program (AIP). Projects under this program can obtain as much as 90% of their cost from the FAA.

The FAA Advisory Circulars provide guidelines on the types of equipment and technology that ARFF services should use on civil airports. These standards and best practices are largely

consistent with those of other organizations, such as the NFPA and ICAO. For example, the FAA's *Advisory Circular 150-5220-10C Guide Specification for Water/Foam Aircraft Rescue and Firefighting Vehicles* and the NFPA's *414 Standard for Aircraft Rescue and Fire-Fighting* Vehicles have similar performance requirements for all major rescue vehicles.

FAA Advisory Circular 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility

This is a central planning document for airport ARFF facilities. As stated in the Circular:

> *"The facility described in this AC is intended to provide aircraft rescue and firefighting (ARFF) service personnel with realistic training in the application of extinguishing agents on an appropriately sized fire area using ARFF vehicle(s) or other agent application devices comparable to those used at their airport."*

The AC provides design guidelines for training facilities; this includes guidelines for sizing, burn area structure, ARFF vehicle maneuvering area, and support components. The FAA developed this Advisory Circular to help designers configure both hydrocarbon and liquid propane facilities. Today the largest number of training facilities built for aviation fire fighting and structural fire fighting training are constructed using propane-liquefied gas as the preferred fuel. This is generally due to concerns about the large amounts of black smoke with particulate that emanate away from hydrocarbon facilities. Propane is generally used for interior fire fighting because of safety considerations. It would be much more difficult to develop an interior trainer using hydrocarbon fuels.

In November 1998, Change 1 to the Design Standards For An Aircraft Rescue and Fire Fighting Training Advisory Circular 150/5220-17A1 was introduced; it incorporated standards, specifications, and recommendations for the design of mobile ARFF training devices.

2.3 International Civil Aviation Organization (ICAO)

The International Civil Aviation Organization's Airports Services Manual (Doc 9137-AN/898) Part 1, *Rescue and Fire Fighting*, Third Addition, 1990, contains the recommendations and guidance for providing the aircraft rescue and firefighting response at international airports. A description of the relevant sections of the manual is provided in Table 2.02.

Chapter 14 of this manual deals with guidance on providing training for the ARFF firefighter. In general, the ICAO manual mirrors many of the requirements of the FAA. In the US, airports are not obligated to meet ICAO standards since ICAO has no regulatory authority within the US. However, many US airports strive to meet ICAO standards from an operational standpoint since they often receive international foreign flag carriers at their airports. In addition, although ICAO standards are followed throughout the world, most countries also have their own civil aviation authorities to oversee the commercial aircraft fire rescue response.

The levels of protection provided at an ICAO airport depart from the FAA regulatory requirements because, unlike the FAA (which currently has five airport indexes A through E) the

ICAO categories are broken down into 10 categories - much like the National Fire Protection Association's 10 categories. ICAO categories 1 to 4 relate to smaller aircraft, including light or general aviation aircraft, helicopters and other non-commercial applications. ICAO indices 5 through 9 corresponds to current FAA indices in size of aircraft and category. ICAO has also recognized the new Very Large Transport Aircraft (VLTA) construct design and added a tenth category to accommodate these new double deck passenger aircraft, projected to carry over 600 passengers with two full levels of occupancy.

The Theoretical and Practical Critical Fire Area (TCA/PCA) methodology, published in the FAA's *Advisory Circular 150/5210-6C, Aircraft Fire Extinguishing Agents,* is also used to establish fire suppression agent and vehicle requirements at ICAO airports. This has been done to ensure that a minimum level of fire protection is provided to all airports worldwide providing commercial passenger operations.

ICAO determines Aircraft Rescue and Fire Fighting (ARFF) requirements and its index classification based upon FAA research. The same methodology and formulas are used by ICAO and almost mirror each other in their requirements.

The ICAO requirement for response to an emergency is two minutes for the first responding vehicle, which is slightly faster than the FAA standard. It further requires all remaining vehicles to be in position to apply agent in under three minutes. This reduced response time puts a premium on vehicles with high horsepower and maneuverability to make the necessary response. Communications and number of vehicles requirements are similar to FAA requirements.

The ICAO manual can be used as both a reference manual as well as a training manual. It provides good detail in extinguishing agent characteristics and agent selection, truck specifications, communications, respiratory equipment, proximity suits, fire station location and response planning, and development of an emergency plan. The ICAO manual contains information on training for the ARFF response. However, this information is general in nature.

2.4 National Fire Protection Association (NFPA)

The National Fire Protection Association (NFPA) provides guidelines related to training educators' professional qualifications, fire fighter training requirements, and airport emergency services standards.

A careful review was conducted of NFPA documents related to the operation of a training program. The NFPA documents are extensive. There are 19 standards within the documents that relate to professional firefighting training, fire fighter instructor qualifications and requirements for providing the necessary emergency response at an airport. The scope and depth of this information is substantial, and are summarized in Table 2.02. A detailed review and discussion of each standard is provided in Appendix B.

TABLE 2.02
ARFF-RELATED TRAINING REQUIREMENTS AND GUIDELINES

Agency	Regulation/Guideline	Section	Relevance
Federal Aviation Administration (FAA)	Federal Aviation Regulation Part 139 - Certification and Operations: Land Airports Serving CAB – Certificated Scheduled Air Carriers Operating Large Aircraft	§139.1 Applicability	Prescribes rules for certificated airports which serve scheduled or unscheduled air carriers using aircraft with seating capacity of more than 30 passengers.
		§ 139.315 Aircraft Rescue and Fire Fighting: Index Determination	Determines airport index based on length or aircraft groups and number of departures.
		§ 139.317 Aircraft Rescue and Fire Fighting: Equipment and Agents	Identifies minimum requirements for vehicles, equipment and agents.
		§ 139.319 Aircraft Rescue and Fire Fighting Operational Requirements	Requires personnel be properly trained and identifies curriculum; requires at least one live-fire drill every 12 months.
FAA Aviation Rules Advisory Committee (ARAC)	Rewrite of Federal Aviation Regulation Part 139 - Certification and Operations: Land Airports Serving CAB – Certificated Scheduled Air Carriers Operating Large Aircraft	§139.1 Applicability	Expected to be modified by summer of 2004 - in final stage of rule making change process. Prescribes rules for certificated airports which serve scheduled or unscheduled air carriers using aircraft with seating capacity of more than 10 passengers.
FAA Aviation Rules Advisory Committee (ARAC)	Rewrite of Federal Aviation Regulation Part 139 - Certification and Operations: Land Airports Serving CAB – Certificated Scheduled Air Carriers Operating Large Aircraft	§ 139.319 Aircraft Rescue and Fire Fighting Operational Requirements	Recommendations should include frequency as well as quality of fire fighting training.

Agency	Regulation/Guideline	Section	Relevance
Federal Aviation Administration (continued)	AC 150/5210-6C Aircraft Fire and Rescue Facilities and Extinguishing Agents	All sections	Outlines proper use and application of agents. Is used to establish Airport Rescue and Fire Fighting (ARFF) fire suppression agent and vehicle requirements.
	AC 150/5210-7B Aircraft Fire and Rescue Communications	All sections	Provides ARFF guidelines for airport communication systems.
	AC 150/5210-14 Aircraft Fire and Rescue Personnel Protective Clothing	All sections	Provides specifications for suits and other personnel gear.
	AC 150/5210-15 Airport Rescue and Fire Fighting Station Design	All sections	Contains standards and guidelines for ARFF buildings.
	AC 150/5210-16 Availability of Basic Aircraft Rescue and Fire Fighting Curriculum	All sections	Announces the Standard Basic Aircraft Rescue and Fire Fighting Training Course.
	AC 150/5220-4B Water Supply Systems for Aircraft Fire and Rescue Protection	All sections	Guidelines on the selection of water sources.
	AC 150/5220-10A Guide for Specifications for Water/Foam Aircraft Rescue and Fire Fighting Vehicles	All sections	Contains performance standards for ARFF vehicles.
	AC 150/5220-14A Airport Fire and Rescue Vehicle Specification Guide	All sections	Contains procurement specifications for ARFF vehicles.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	All sections	The facility described in this AC is intended to provide Aircraft Rescue and Fire Fighting (ARFF) service personnel with realistic training in the application of extinguishing agents on an appropriately sized fire area using ARFF vehicle(s) or other agent application devices comparable to those used at their airport.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	Chapter 1 § Section 2 Parameters for Fire Size	Actual or simulated aircraft fire suppression training shall present the fire fighter with realistic and challenging aircraft fires.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	§ Section 3 Sizing of the burn facility	Guidelines provide three methods for determining training facility size.

Agency	Regulation/Guideline	Section	Relevance
Federal Aviation Administration (continued)	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	§ Section 3 Sizing of the burn facility	Should meet needs of sponsoring or host organization.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	Chapter 2 § Section 1 & 2 Training Facility components	Guidelines provided for building hydrocarbon based facility.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	§ Section 3 Environmental protection	Guidance on flexible membrane installation for ground water protection.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	§ Section 4 Use of propane fuel alternative	Guidelines for the construction of the support facilities to utilize propane alternative fuel.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	§ Section 6 Hydrocarbon fuel support	Piping, fuel distribution and other equipment when using hydrocarbon fuel.
	AC 150/5220-17A Design Standards for an Aircraft Rescue and Fire Fighting Training Facility	Chapter 3 All sections	Provides specific guidance on the construction phase.
	Advisory Circular 150/5220-17A CHANGE 1 Design Standards for an Aircraft Rescue and Fire Fighting Training Facility Date: 11/24/98	All Sections	Provides guidance on building full scale training facilities and mobile trainers. Allows the use of mobile trainer. * (See Federal Register.)
	AC 150/5220-19 Guide Specification for Small Dual Agent Aircraft Rescue and Fire Fighting Vehicles	All sections	Contains performance standards for small ARFF vehicles.
	AC 150/5200-31 Airport Emergency Plan	All sections	Provides guidance for preparation of emergency plans.
	AC 139.49-1 Programs for Training Fire Fighting and Rescue Personnel	All sections	Guidelines on conducting live fires.
	Airport and Airway Improvement Act of 1982	§503(a)(2)(D) Definitions	Includes the acquisition of land, performance of work and purchase of equipment in support of an ARFF training facility in the definition of airport development and within the AIP.
	Aviation Safety and Capacity Expansion Act of 1990	§9102	Allows funding of ARFF training facilities with AIP funds.

Agency	Regulation/Guideline	Section	Relevance
US Federal Register	September 18, 2003 (Volume 68, Number 181) [Page 54772-54774]	Training requirements	* Proposal to allow mobile training for all indexes of airports annually with reduced fire size.
International Civil Aviation Organization (ICAO)	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 2 – Level of Protection	Provides guidelines on determining levels of protection required at ICAO airports.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 4 – Communications and Alarm	Provides guidelines on vehicles and station communications systems.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 5 – Vehicles Specifications	Provides guidelines on how to develop specifications for ARFF vehicles used at ICAO airports.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 6 – Protective clothing	Provides guidelines on protective clothing and respiratory equipment used in both training and operations.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 8 – Extinguishing Agent Requirements	Provides guidelines on determining proper extinguishing agents and testing requirements.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 9 – Fire Station Design	Provides guidance on fire station, function and design.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 11 – ARFF Organization	Recommendations for developing and emergency plan and setting up the emergency organization.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 12 – ARFF Procedures	Guidance on tactics, strategies and procedures for the ARFF response.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 13 – Specialized ARFF responses	Provides guidelines ARFF response under adverse weather, and hostile environmental and terrain situations.
	Airport Services Manual Part 1 Rescue and Fire Fighting	Chapter 14 – Training	Provides guidelines on the types of training recommended for ARFF personnel.
National Fire Protection Agency (NFPA)	NFPA 10 - Standard for Portable Fire Extinguishers, 1998 edition.	Select sections	Provides minimum requirements for extinguishers, agents and uses.

Agency	Regulation/Guideline	Section	Relevance
National Fire Protection Agency (NFPA) (continued)	NFPA 30 – Flammable and Combustible Liquid Code	Select sections	Provides design criteria for storage of flammable/combustible liquids including waste liquids.
	NFPA 54 – Fuel Gas Code – National	Select sections	Provides criteria for installation of fuel gas piping systems.
	NFPA 70 – Electrical Code – National	Select sections	Provides criteria for design of electric systems.
	NFPA 77 - Recommended Practice on Static Electricity	Selected sections	Recommended practice applies to the identification, assessment, and control of static electricity for purposes of preventing fires and explosions.
	NFPA 403 – Aircraft Rescue and Fire Fighting Services at Airports	§2.0 Organization of ARFF Services	Identifies airport responsibilities, emergency preparedness requirements, airport ARFF service categories and minimum number of ARFF vehicles. Includes a minimum staffing level requirement of three fire fighters for each major rescue vehicle required to meet the airport's emergency services' indexed response.
	NFPA 402 - Guide for Aircraft Rescue and Fire Fighting Operations (In Part-	§ 4-14 All sections- Procedures for ARFF and Structural Fire Services	Provides information relative to aircraft rescue and fire fighting operations and procedures for airport and structural fire departments. Doesn't include procedures involving military aircraft. See International Fire Service Training Association (IFSTA).
	NFPA - 405, Recommended (**Standard) Practice for the Recurring Proficiency Training of Aircraft Rescue and Fire-Fighting Services,	§2.1 Knowledge and skills recommended to maintain proficiency. Contains 14 Chapters of Requirements, plus other reference materials.	**Recommended will be upgraded to Standard and Requirements in May 2004. Contains the recommended performance criteria by which an authority having jurisdiction over Aircraft Rescue and Fire Fighting (ARFF) maintains proficiency and effective ARFF at airports.
	NFPA 407 - Standard for Aircraft Fuel Servicing	Select sections	Minimum fire safety requirements and procedures for fueling aircraft.

Agency	Regulation/Guideline	Section	Relevance
National Fire Protection Agency (NFPA) (continued)		Appendix A Explanatory Material	Provides training program guidelines to meet NFPA 1003 qualifications requirements.
	NFPA 418 - Standard for Heliports	Select sections	Fire protection requirements and procedures.
	NFPA 424 - Guide for Airport/Community Emergency Planning	All sections	Recommended procedures for developing a community emergency response plan.
	NFPA 472 - Standard for Professional Competence of Responders to Hazardous Materials Incidents	All sections	Covers the competencies for first responders at the awareness level, first responders at the operational level, hazardous materials technicians, incident commanders, hazardous materials branch officers, hazardous materials branch safety officers, and other specialist employees.
	NFPA 1000 - Standard for Fire Service Professional Qualifications	Select sections	Accreditation and Certification Systems
	NFPA 1001 - Standard for Fire Fighter Professional Qualifications	Select sections	Identifies the minimum job performance requirements for career and volunteer fire fighters whose duties are primarily structural in nature. The purpose of this standard is to specify the minimum job performance requirements for fire fighters.
	NFPA 1002 - Standard for Fire Apparatus Driver/Operator Professional Qualifications	Select sections	Identifies the minimum job performance requirements for fire fighters who drive and operate fire apparatus.
	NFPA 1003 – Airport Fire Fighter Professional Qualifications	§3.0 Airport Fire Fighter	Establishes performance requirements for airport fire fighters including prerequisite knowledge and skills.
		Appendix A – Explanatory Material	Addresses the substitution of flammable gas for flammable liquid in training fires for environmental considerations.
		Appendix B – Aircraft Fire Suppression and Rescue Fire Training Mock-up	Provides recommendations for various live fire training mock-ups.

Agency	Regulation/Guideline	Section	Relevance
National Fire Protection Agency (NFPA) (continued)	NFPA 1006 - Standard for Rescue Technician Professional Qualifications	Select sections	Establishes the minimum job performance requirements necessary for fire service and other emergency response personnel who perform technical rescue operations.
	NFPA 1021 - Standard for Fire Officer Professional Qualifications	All Sections	Identifies the performance requirements necessary to perform the duties of a fire officer and specifically identifies four levels of progression.
	NFPA 1035 - Standard for Professional Qualifications for Public Fire and Life Safety Educator	Select sections	Identifies the levels of professional performance required for public fire and life safety educators, public information officers, and juvenile fire-setter intervention specialists.
	NFPA 1041 - Standard for Fire Service Instructor Professional Qualifications	Select sections	Identifies the professional levels of competence required of fire service instructors.
	NFPA 1500 - Standard on Fire Department Occupational Safety and Health	§4, 5 and 7	Addresses personal protective clothing, apparatus, equipment, and facilities utilized in the evaluation of candidates shall meet this standard.
	NFPA 1051 - Standard for Wildland Fire Fighter Professional Qualifications	Select sections	Identifies the minimum job performance requirements for wildland fire duties and responsibilities.
	NFPA 1081- Standard for Industrial Fire Brigade Member Professional Qualifications	Select sections	Identifies the minimum job performance requirements necessary to perform the duties of an individual who is a member of an organized industrial fire brigade providing services at a specific facility or site.
	NFPA 1403 - Standard on Live Fire Training Evolutions	All sections	Contains the minimum requirements for training fire suppression personnel engaged in firefighting operations under live fire conditions.
	NFPA 1404 - Standard for a Fire Department Self-Contained Breathing Apparatus	Select sections	Contains minimum requirements for the training component of the Respiratory Protection Program found in NFPA 1500.

Agency	Regulation/Guideline	Section	Relevance
National Fire Protection Agency (NFPA) (continued)	NFPA 1500 - Standard on Fire Department Occupational Safety and Health Program	Select sections	Contains minimum requirements for a fire service-related occupational safety and health program. Specifies safety requirements for those members involved in rescue, fire suppression, emergency medical services, hazardous materials operations, special operations, and related activities.
	NFPA 1561 - Standard on Emergency Services Incident Management System	Select sections	Contains the minimum requirements for an incident management system to be used by emergency services to manage all emergency incidents.
	NFPA 1582 - Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians	Select sections	Contains medical requirements for members, including full-time or part-time employees and paid or unpaid volunteers. These requirements are applicable to public, governmental, military, private, and industrial fire department organizations providing rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency service.
	NFPA 1521 - Standard for Fire Department Safety Officer	Select sections	Contains minimum requirements for the assignment, duties, and responsibilities of a health and safety officer and an incident safety officer for a fire department or other fire service organization.
International Fire Service Training Association (IFSTA) Certification Standards of Oklahoma State University (OK).	Aircraft Rescue and Fire Fighting, Fourth Edition	All Sections	Required guidance for all Department of Defense Fire Fighting training.
Underwriters Laboratories	UL 2085 - Standard for Protected Above ground Tanks for Flammable and Combustible Liquids.	Select sections	Requirements for above ground fuel storage containers, both liquid and gas.